REMARKS

Claims 10-11, 15, 25-26, 30-58, 62, and 66-82 remain pending in the application. Claims 73 and 75 have been amended without introduction of new matter. Favorable reconsideration is respectfully requested in view of the above amendments and the following remarks.

The allowance of claims 10-11, 25-26, 31-40, 41-58, 62, and 66-72 is again gratefully acknowledged.

Claims 15, 30, and 73-82 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Easton (USP 5,764,687) (henceforth "Easton") in view of Rouphael et al. (USP 6,278,725) (henceforth, "Rouphael"). This rejection is respectfully traversed.

As explained in Applicants' specification beginning at page 18, line 17, the problem of how to handle a frequency error between a local frequency reference of a receiver such as a mobile station and the carrier frequency of a transmitter is aggravated if the receiver receives signals from multiple transmitters at the same time, e.g., if a mobile station is communicating with more than one base station simultaneously, as in a soft handover situation. This problem is addressed by handling received path rays from different base stations separately. This is useful because, by individually applying the AFC algorithms to each base station, the frequency offset between the mobile station and the base stations can be determined, thereby allowing a decision to be made as to what the final frequency offset should be. See, e.g., Applicants' specification at page 19, lines 9-22.

Independent claims 15, 30, 73, and 75 define embodiments that include this solution to the problem. In particular, claim 15 defines a transceiver that includes, *inter alia*, "frequency error estimators for computing a frequency error estimate for each ray based on successive values of a respective one of the channel estimates; and at least two summers for performing weighted summations of groups of the frequency error estimates to provide at least two combined frequency error estimates, wherein: each of the combined frequency error estimates corresponds to a respectively different one of at least two base station transmitters" (emphasis added).

Independent claim 30 similarly defines a method that includes, *inter alia*, "performing at least two weighted summations of groups of the frequency error estimates to provide at least two combined frequency error estimates, wherein each of the combined frequency error

estimates corresponds to a respectively different one of at least two base station transmitters" (emphasis added).

Similarly, independent claim 73 defines an apparatus that comprises, "frequency error estimators for estimating frequency errors separately for different signal paths; and combiners for combining groups of the frequency error estimates to produce at least two combined frequency error estimates" (emphasis added). As now amended, claim 73 further defines that "each of the combined frequency error estimates corresponds to a respectively different one of the two or more transmitters" (emphasis added).

Independent claim 75 similarly defines a method that comprises "estimating frequency errors separately for different signal paths; and combining groups of the frequency error estimates to produce at least two combined frequency error estimates" (emphasis added). As now amended, claim 75 furthered defines that "each of the combined frequency error estimates corresponds to a respectively different one of the two or more transmitters" (emphasis added).

The Office acknowledges that Easton fails to disclose producing at least two combined frequency error estimates and at least two summers for performing weighted summations of groups of the frequency error estimates to provide at least two combined frequency error estimates, wherein each of the combined frequency error estimates corresponds to a respectively different one of at least two base station transmitters. The Office now relies on Rouphael as making up for these deficiencies.

This reliance is unfounded at least because, like Easton, Rouphael neither discloses nor suggests providing "at least two combined frequency error estimates, wherein: each of the combined frequency error estimates corresponds to a respectively different one of at least two base station transmitters (claims 15 and 30) or producing "at least two combined frequency error estimates, wherein each of the combined frequency error estimates corresponds to a respectively different one of the two or more transmitters" (claims 73 and 75).

The Office alleges that Rouphael's summers 250, 255, 260 (see Fig.3) perform this function, but Applicants respectfully assert that this is not the case because Rouphael provides no mechanism for ensuring that the output of each of the summers corresponds to a respectively different one of at least two transmitters. To the contrary, Rouphael's arrangement provides a number of frequency discriminators 110-1, 110-2,..., 110-3, each associated with a respectively different one of the Rake fingers 210, 212, 214. Each of the

frequency discriminators 110-1, 110-2, ..., 110-3 generates an output $\Delta\omega_i$ $(i=1 \text{ to } N)$ that is used in two different ways. First, each of the frequency discriminator outputs $\Delta\omega_i$ $(i=1 \text{ to } N)$ is supplied to circuitry (adder 207, loop filter 175, and a divide by N circuit 230) that generates an average frequency error value *computed across all of the Rake fingers without regard to what transmitter those frequency error values are associated with.*

Second, each of the frequency discriminator outputs $\Delta\omega_i$ $(i=1 \text{ to } N)$ is supplied to a respective one of the adders 250, 255, 260. Each of the adders 250, 255, 260 also receives the computed average frequency error value from the circuitry discussed above. Using these inputs, each of the adders 250, 255, 260 generates the rough estimate of the actual shifted frequencies present in a respective one of the Rake fingers. Thus, the frequencies provided from adders 250, 255, 260 are the corrected frequencies as shifted by the Doppler shift. (See, e.g., Rouphael at column 6, lines 16-25.)

Of particular relevance to the present discussion is the fact that each of the adders 250, 255, 260 generates an output associated with one of the Rake fingers 210, 212, 214, but there is no mechanism for causing each of these outputs (or the Rake fingers) to "correspond[] to a respectively different one" of the transmitters, as recited in Applicants' rejected claims. Rouphael's statement that "The frequency offsets in each path of the Rake receiver are different due to various Doppler shifts at which these signals are received" confirms that this arrangement anticipates that different frequency offsets (and therefore different Rake fingers) will be associated with the same transmitter. Because different Rake fingers can be associated with the same transmitter, it follows that the frequency discriminators 110-1, 110-2, ..., 110-3 and ultimately the outputs from the adders 250, 255, 260 can too.

Thus, even if the teachings of Rouphael were combined with those of Easton, as now suggested by the Office, the resultant combination would still fail to satisfy Applicants' claimed requirement that "each of the combined frequency error estimates corresponds to a *respectively different one* of at least two base station transmitters." (Emphasis added.)

In view of the foregoing, it is respectfully asserted that each of the independent claims 15, 30, 73, and 75, as well as their related dependent claims 74 and 76-82 are patentably distinguishable over the prior art of record. Accordingly, it is respectfully requested that the rejection of claims 15, 30, and 73-82 under 35 U.S.C. §103(a) be withdrawn.

The application is believed to be in condition for allowance. Prompt notice of same is respectfully requested.

Respectfully submitted,

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